

Date: Tue, 11 Oct 94 04:09:09 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: List
Subject: Info-Hams Digest V94 #1112
To: Info-Hams

Info-Hams Digest Tue, 11 Oct 94 Volume 94 : Issue 1112

Today's Topics:

 6 meter AM Activity
 advice on 40 Mtr vertical
 ARRL And Gay Hams Settle Complaint
 Callsign/address databases-privacy issue (4 msgs)
 CB Jerk
 Code Practice on San Francisco Peninsula
 FM on HF bands
 Internet-to-AR Gateway ??
 IPS Daily Report - 10 October 94 (2 msgs)
 Radio Shack Violation
 Radio Show Exchange Using Maven
 TH-78A: Digital Squelch?
 Wireless security systems and amateur radio

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 10 Oct 1994 17:19:11 -0400
From: rbellville@aol.com (RBellville)
Subject: 6 meter AM Activity

Do the majority of AM'ers use vertical or horizontal polarized antennas.
I'd like to get an antenna up before winter and wonder if it should be a
ground plane or a horizontal dipole.

- Rob, N1NTE

Date: Mon, 10 Oct 94 21:34:25 -0500
From: Chip Dematteo <dech@delphi.com>
Subject: advice on 40 Mtr vertical

Hi...I'm hoping somebody out there has some experience they can pass on to me about 40/80m verticals. I'm thinking about the Gap Challenger or maybe the Hustler 6-BTV or the Butternut hf2V. Anybody have anything to say about the relative merits of these antennas. I have a beam for 10-20 and an R7 which is lousy on 40m...Thanks...Chip K04NU

Date: Tue, 11 Oct 1994 00:11:47 UTC
From: an87806@anon.penet.fi
Subject: ARRL And Gay Hams Settle Complaint

AMERICAN RADIO RELAY LEAGUE, INCORPORATED
AND
LAMBDA AMATEUR RADIO CLUB

JOINT DISTRIBUTION STATEMENT

October 10, 1994

FOR IMMEDIATE RELEASE

Contact: Jim Kelly, KK3K
(215) 978 - LARC

The American Radio Relay League (ARRL) and the Lambda Amateur Radio Club (LARC) are pleased to announce a cooperative resolution of LARC's discrimination complaint filed before the State of Connecticut Commission on Human Rights and Opportunities (CCHRO) in March 1992.

In September of 1985, LARC submitted a classified advertisement for publication in the "Club/Hamfests" section of QST which read:

"Lambda Net" club for gay hams with members nationwide and Canada. On-air skeds and newsletter. For info write Jim, KK3K, POB 24810 Phila. PA 19130

The advertisement was published in the November, 1985 issue of QST, but was refused in subsequent issues thereafter. LARC resubmitted the advertisement in 1987, 1989, and 1991; QST refused it each time. LARC's complaint asserted that the sexual orientation of LARC's members was the reason for the refusal to publish the advertisement and that QST's refusal to publish the advertisement constituted discrimination based on sexual orientation. ARRL disputes the allegations in the complaint.

In October of 1991, a Connecticut law prohibiting discrimination based on sexual orientation took effect. Connecticut General Statutes S. 46a-81d states: ". . . It shall be a discriminatory practice in violation of this section: (1) To deny any person within the jurisdiction of this state full and equal accommodations in any place of public accommodation . . . because of such person's sexual orientation." ARRL disputes the application of Connecticut General Statutes S. 46a-81d to its monthly journal, QST, and it disputes the jurisdiction of the CCHRO over the rights of the publisher under the First Amendment to the United States Constitution.

In March 1992, ARRL offered to publish LARC's advertisement. However, LARC did not resubmit the advertisement, because it wanted assurance that the advertisement would not be removed from QST again. LARC chose instead to pursue its discrimination complaint.

In February 1994, the CCHRO found "reasonable cause for believing that a discriminatory practice had been . . . committed," and scheduled the case for a hearing. The hearing has not been held, and no evidence has been introduced, nor has any finding of fact or conclusion of law been made. Instead, ARRL and LARC met and reached a mutually acceptable solution to LARC's discrimination complaint. LARC and ARRL are pleased to report that the matter is now settled.

The ARRL and LARC are pleased to have resolved this situation in a spirit of good will and mutual respect which will allow each organization to cooperate as they concentrate their efforts on the many challenges confronting ham radio today.

* * *

To find out more about the anon service, send mail to help@anon.penet.fi.
Due to the double-blind, any mail replies to this message will be anonymized,
and an anonymous id will be allocated automatically. You have been warned.
Please report any problems, inappropriate use etc. to admin@anon.penet.fi.

Date: 10 Oct 94 16:16:11 -0800
From: harrisok@vax.sonoma.edu
Subject: Callsign/address databases-privacy issue

In article <37c6sf\$nvv@engnews1.Eng.Sun.COM>, wdh@Eng.Sun.COM (Dennis Henderson) writes:

> I hear a lot of folks on the local repeaters telling folks they
> are going on vacation. Acces to callsign/address information can
> lead to one's house getting broken into. I strongly suspect this
> in a recent burglary.

This is just a plain dumb practice! One should NEVER talk about their vacation BEFORE then go on it to other people over the air. Yes, this practice has been used to determine whether someone will be home or not and just where they live.

Talk about your vacation AFTER you get back...

Ken

--

Ken Harrison	Moosehead: Great beer!
N6MHG	
harrisok@sonoma.edu	...and a new experience for the moose!

Date: Tue, 11 Oct 1994 00:52:29 GMT
From: greg@core.rose.hp.com (Greg Dolkas)
Subject: Callsign/address databases-privacy issue

Dennis Henderson (wdh@Eng.Sun.COM) wrote:

: Is there another route to privacy besides getting a PO box?

For one, don't talk about it on the air. I know that sounds, well, simplistic, but as a soceity we haven't become aware enough about today's communications vulnerabilities. This applies not just to Amateur Radio, but cordless phones

and cellular phones too. Old assumptions, new technology, big risks.

Greg.

Date: 10 Oct 1994 21:30:48 -0400
From: wb2mpk@gti.gti.net (Glen Johnson)
Subject: Callsign/address databases-privacy issue

Dennis Henderson (wdh@Eng.Sun.COM) wrote:

: I'm concerned with having my name and address available publically
: via call books and the like. I am very uncomfortable having
: folks know I am not home (from overhearing my conversations) and
: being able to get my address from a public database.

: I notice on the 610 form that public access is granted to information
: on the form. Is there a way to prevent the distribution?

No. Your license is a matter of public record. Just like I can go to your town hall and see how much you paid for your house and who holds your mortgage.

I don't like having that information available either. That's why I have a PO Box.

--
Glen Johnson - wb2mpk@gti.net
Manager: GEnie Sports RoundTable
Radio & Electronics RT GEnie address: SPORTS
Fantasy Sports Leagues RT RADIO.RT

Date: 11 Oct 1994 01:45:57 GMT
From: hemstree@cs.colostate.edu (charles he hemstreet)
Subject: Callsign/address databases-privacy issue

Ken makes a good point below. Other security risks are cordless phones and baby monitors. Fortunately, newer cordless phones are starting to scramble their signal. 49 mhz is VERY easy to listen to. Unfortunately, the common sense thing is to consider yourself broadcasting (meanies are listening) and reserve the comments about vacation for the corded land-line.

Good luck,
Charles

In article <37c6sf\$nvv@engnews1.Eng.Sun.COM>, wdh@Eng.Sun.COM
(Dennis Henderson) writes:

This is just a plain dumb practice! One should NEVER talk about their vacation BEFORE then go on it to other people over the air. Yes, this practice has been used to determine whether someone will be home or not and just where they live.

Talk about your vacation AFTER you get back...

Ken

--

```
!=====!  
! Charles H. Hemstreet IV      !internet: hemstreet@handel.cs.Colostate.Edu !  
! Colorado State University    !      Professional College Student      !  
!=====!
```

Date: Mon, 10 Oct 1994 19:44:32 GMT
From: wre00@eng.amdahl.com (Departmental account)
Subject: CB Jerk

Write a letter to the FCC. Get all your neighbors to do the same.

If you can find out what frequencies he is using, check to see if they are in the CB channels.

--

```
-----  
| William R. Estrada II      - KD6VEG @ N0ARY      |  
|                          Mt. Umunhum, Santa Clara County, CA      |  
|                          Standard Disclaimer.      |  
-----
```

Date: Tue, 11 Oct 1994 00:08:27 GMT
From: moreno@key.amdahl.com (Bob Moreno)
Subject: Code Practice on San Francisco Peninsula

In article 1620@sfov1.verifone.com, david_b3@sfov1.verifone.com () writes:
>I live on the San Francisco Peninsula (Menlo Park) and am trying to learn
>the code to upgrade to Tech+. Can anyone provide me with any 2M or 440

>repeater frequencies, times, etc. where they do code practice?
>
>Thanks,
>
>David Barnes KD6DMS
>david_b3@verifone.com
>

There is a code practice session on Wednesday nights at 8:00 PM on the repeater using 145.45 as the output. There are several 5 minute sessions with the faster speeds first and the 5 wpm session last.

I've heard that there might be code practice on another repeater also on Wednesday nights. The frequency is 145.23 and time is uncertain, maybe at 7:30 PM.

73 Bob KE6GTI

Date: Mon, 10 Oct 1994 21:30:52 GMT
From: adenaf@utica.ge.com (Nicholas A Ferro)
Subject: FM on HF bands

There seems to be a lot of confusion about using FM on HF. A quick survey found that all asked thought 10 meters was the only legal band for amateur HF FM in the United States.

If you can transmit voice in a certain portion of a band, FM is also legal. FCC part 97.305 lists legal modes.

While I have never heard any FM on 160-12m, I would like to see some of those rigs with the capability used on FM. It may not be the most efficient mode but since there is no amplitude variation, you won't have to worry about the neighbor with a poorly designed TV seeing anything more than a constant carrier.

-Nick KU2A QRV 1.8-2401

Date: Tue, 11 Oct 1994 01:04:28 GMT
From: pstonits@uwcmail.uwc.edu (N9ICQ)
Subject: Internet-to-AR Gateway ??

Does any amateur group convert Internet email msg files to (CW? RTTY? etc) transmissions ? I'm an inactive ham with no rig and my OM is active on low freq SSB with no Internet access.

Maybe such a conversion would amount to illegal rebroadcast , but that's the kind of "modem" I seek.

Pete Stonitsch, N9ICQ

Date: Mon, 10 Oct 1994 23:30:58 GMT
From: rwc@corona.syd.ips.oz.au (Regional Warning Centre)
Subject: IPS Daily Report - 10 October 94

SUBJ: IPS DAILY SOLAR AND GEOPHYSICAL REPORT
ISSUED AT 10/2330Z OCTOBER 1994 BY IPS RADIO AND SPACE SERVICES
FROM THE REGIONAL WARNING CENTRE (RWC), SYDNEY.
SUMMARY FOR 10 OCTOBER AND FORECAST FOR 11 OCTOBER - 13 OCTOBER

1A. SOLAR SUMMARY

Activity: very low

Flares: none.

Observed 10.7 cm flux/Equivalent Sunspot Number : 87/30

GOES satellite data for 09 Oct

Daily Proton Fluence >1 MeV: 1.4E+06

Daily Proton Fluence >10 MeV: 1.2E+04

Daily Electron Fluence >2 MeV: 2.0E+09 (very high)

X-ray background: B1.0

Fluence (flux accumulation over 24hrs)/ cm2-ster-day.

1B. SOLAR FORECAST

	11 Oct	12 Oct	13 Oct
Activity	Low	Very low	Very low
Fadeouts	None expected	None expected	None expected

Forecast 10.7 cm flux/Equivalent Sunspot Number for 11 Oct: 86/29

2A. MAGNETIC SUMMARY

Geomagnetic field at Learmonth: ???

Estimated Indices :	A	K	Observed A Index 09 Oct
Learmonth	13	2233 3432	
Fredericksburg	10		11
Planetary	12		12

Observed Kp for 09 Oct: 3333 2232

2B. MAGNETIC FORECAST

DATE	Ap	CONDITIONS
11 Oct	5	Quiet to unsettled
12 Oct	5	Quiet to unsettled
13 Oct	16	Unsettled

COMMENT: Active periods possible during local night on 13th due to small coronal hole.

3A. GLOBAL HF PROPAGATION SUMMARY

DATE	LATITUDE BAND		
	LOW	MIDDLE	HIGH
10 Oct	normal	fair-normal	fair-normal

PCA Event : None.

3B. GLOBAL HF PROPAGATION FORECAST

DATE	LATITUDE BAND		
	LOW	MIDDLE	HIGH
11 Oct	normal	fair	fair
12 Oct	normal	normal	normal
13 Oct	normal	fair	fair-poor

4A. AUSTRALIAN REGION IONOSPHERIC SUMMARY

Observed

DATE	T-index	MUFs at Sydney
10 Oct	16	near normal until just after dawn this morning when depressions of 10-25% were observed

Predicted Monthly T-index for October: 20

4B. AUSTRALIAN REGION IONOSPHERIC FORECAST

DATE	T-index	MUFs
11 Oct	5	Depressed 15 to 30%/near predicted monthly values
12 Oct	20	Near predicted monthly values
13 Oct	20	Near predicted monthly values

COMMENT: Ionosphere became depressed after dawn this morning. (Depressions of 15% were observed at Townsville after 22UT.) The cause of this depression is not clear. Current depression is expected to continue for most of today, and appears to be less severe at lower latitudes.

--

IPS Regional Warning Centre, Sydney	IPS Radio and Space Services
RWC Duty Forecaster tel: +61 2 4148329	PO Box 5606
Recorded Message tel: +61 2 4148330	West Chatswood NSW 2057
email: rwc@ips.oz.au fax: +61 2 4148331	AUSTRALIA

Date: Tue, 11 Oct 1994 00:58:13 GMT
From: rwc@corona.syd.ips.oz.au (Regional Warning Centre)
Subject: IPS Daily Report - 10 October 94

SUBJ: IPS DAILY SOLAR AND GEOPHYSICAL REPORT
ISSUED AT 10/2330Z OCTOBER 1994 BY IPS RADIO AND SPACE SERVICES
FROM THE REGIONAL WARNING CENTRE (RWC), SYDNEY.
SUMMARY FOR 10 OCTOBER AND FORECAST FOR 11 OCTOBER - 13 OCTOBER
+++++ corrected copy +++++

1A. SOLAR SUMMARY

Activity: very low

Flares: none.

Observed 10.7 cm flux/Equivalent Sunspot Number : 87/30

GOES satellite data for 09 Oct

Daily Proton Fluence >1 MeV: 1.4E+06

Daily Proton Fluence >10 MeV: 1.2E+04

Daily Electron Fluence >2 MeV: 2.0E+09 (very high)

X-ray background: B1.0

Fluence (flux accumulation over 24hrs)/ cm2-ster-day.

1B. SOLAR FORECAST

	11 Oct	12 Oct	13 Oct
Activity	Low	Very low	Very low
Fadeouts	None expected	None expected	None expected

Forecast 10.7 cm flux/Equivalent Sunspot Number for 11 Oct: 86/29

2A. MAGNETIC SUMMARY

Geomagnetic field at Learmonth: mostly unsettled

Estimated Indices : A	K	Observed A Index 09 Oct
Learmonth	13 2233 3432	
Fredericksburg	10	11
Planetary	12	12

Observed Kp for 09 Oct: 3333 2232

2B. MAGNETIC FORECAST

DATE	Ap	CONDITIONS
11 Oct	5	Quiet to unsettled
12 Oct	5	Quiet to unsettled

13 Oct 16 Unsettled

COMMENT: Active periods possible during local night on 13th due to small coronal hole.

3A. GLOBAL HF PROPAGATION SUMMARY

LATITUDE BAND

DATE	LOW	MIDDLE	HIGH
10 Oct	normal	fair-normal	fair-normal

PCA Event : None.

3B. GLOBAL HF PROPAGATION FORECAST

LATITUDE BAND

DATE	LOW	MIDDLE	HIGH
11 Oct	normal	fair	fair
12 Oct	normal	normal	normal
13 Oct	normal	fair	fair-poor

4A. AUSTRALIAN REGION IONOSPHERIC SUMMARY

Observed

DATE	T-index	MUFs at Sydney
10 Oct 16		near normal until just after dawn this morning when depressions of 10-25% were observed

Predicted Monthly T-index for October: 20

4B. AUSTRALIAN REGION IONOSPHERIC FORECAST

DATE	T-index	MUFs
11 Oct	5	Depressed 15 to 30%/near predicted monthly values
12 Oct	20	Near predicted monthly values
13 Oct	20	Near predicted monthly values

COMMENT: Ionosphere became depressed after dawn this morning. (Depressions of 15% were observed at Townsville after 22UT.) The cause of this depression is not clear. Current depression is expected to continue for most of today, and appears to be less severe at lower latitudes.

--
IPS Regional Warning Centre, Sydney |IPS Radio and Space Services
RWC Duty Forecaster tel: +61 2 4148329 |PO Box 5606
Recorded Message tel: +61 2 4148330 |West Chatswood NSW 2057
email: rwc@ips.oz.au fax: +61 2 4148331 |AUSTRALIA

Date: 11 Oct 1994 00:23:44 GMT

From: danb@acme.csusb.edu (Dan Brown)
Subject: Radio Shack Violation

David Mende (bigdave@ix.netcom.com) wrote:

: In <36s9el\$kk2@news.csus.edu> danb@acme.csusb.edu (Dan Brown) writes:

: >dearnshaw@worldbank.org wrote:

: >

: >: I'd be curious to know what the rules (Laws) are: Do you need a licence to
: >: purchase, or simply to operate?

: >

: > Only to operate. Why should you need a license to purchase? The

: >

: I'm glad someone brought this subject up. There are ham stores out
: there that believe that they have the right to refuse to sell transceivers
: to non-hams. I've always held the belief that the best way for someone to

Well, they do have that right. For that matter, they have the
right to refuse to sell transceivers to anyone but non-hams, or anyone
who's wearing (or not wearing) a purple hat, or most anything else they
want to judge on. If, however, they believe that any of these criteria
are imposed by the FCC, they are mistaken--the only such restriction from
the FCC is the sale of linear amps which can cover 10 meters.

--

Dan Brown, KE6MKS

danb@acme.csusb.edu -- finger for PGP 2.6.1 public key

Don't Tread on Me

Date: 10 Oct 1994 17:52:11 -0700

From: peterson@sun.lclark.edu (Leland Peterson)

Subject: Radio Show Exchange Using Maven

My college radio station is looking to exchange radio programs (1 hour)
over the internet with other colleges using Maven. We have a Mac on an
ethernet network connected to our broadcasting board. We have tried
sending an on-air broadcast to different Macintoshes around campus and it
seems to work pretty well.

Basically, all you need is a line-level signal from your broadcast booth
into a Macintosh on a network capable of accessing the internet. The
Maven software is shareware.

It does take up quite a bit of band-width, so the broadcasts will have to
be late at night. Right now I am interested in running a few short tests
to study sound quality. Is anyone interested?

Please contact me via e-mail at peter@lclark.edu.

Thanks,
Leland Peterson,
Music Director,
KLC Radio

PS Credit for this idea goes to a guy named Paul that works at the station.

Date: 10 Oct 94 16:58:07 -0500
From: conklic9391@cobra.uni.edu
Subject: TH-78A: Digital Squelch?

In article <376qrg\$g06@apakabar.cc.columbia.edu>, mrw13@namaste.cc.columbia.edu
(Marc Richard Wollemborg) writes:

> Is there a way to program the Kenwood TH-78A to use digital squelch either in
> rx or tx? I'm trying to monitor my school's security frequency; but they
> use a digital squelch on their radios and while I can hear them ,I also hear

It depends which version of the phrase 'digital squelch' your school uses.
Dollars to doughnuts- they use a variation of Moto's DPL, or DCS, or GE calls
it DCG (all the same stuff). This is like PL, in that a subaudible code is
sent constantly- but instead of one constant sine wave- DPL pulses out a code-
akin to very, very, very old pagers (not a coincidence).

For some reason, the amateurs, as well as the companies selling us radios,
market DTMF squelch systems as 'digital squelch'. Well--- yea, sorta. These
are audible- usually consist of 3-4 MaBell-esqu tones in sequence. Less data
permutations than DCS, slower (probably .75 secs for a 4 digit code, using my
experience with ham HTs versus 0.179 ms [or so says Comm Spec] for true
digital), and audible to others monitoring.

I've seen DTMF units in the commercial radio mags, but not many... so probably
not used much. If you want to use your TH78 in this application- you'll need
to spend \$59 for a Comm-Spec board- and then figure a way to fit it in the
radio (really small surface mount-chip board, but might not fit in your radio).

Good luck.

=====
Chris Conklin
Amateur Radio: N0PAV
IN: ConkliC9391@uni.edu

Graduate Student, Public Policy - University of Northern Iowa

Amateur Radio Voice: 444.65, N0PAV/R

=====

Date: Tue, 11 Oct 1994 00:51:43 GMT

From: griff@ssd.intel.com (Thomas Griffin - x7792)

Subject: Wireless security systems and amateur radio

Anyone have any experience with wireless security systems and amateur radio?

Currently I am up on the VHF/UHF bands, but plan to get on HF as soon as I get the code down and upgrade. I've considered installing a wired security system (using shielded pair), but due to the construction of our existing house this costs more than I care to spend. So, I am looking at wireless systems.

If you have a wireless security system, I would be very interested in knowing the following:

Which brand of security system?

Which amateur radio bands do you operate on, how much power, and type(s) of antennas?

What problems, if any, do your radio operations cause with the security system?

Were you able to fix these problems (how)?

Anything else that would be good to know?

Also, does anyone have any experience with security systems such as the "Plug 'n Power" from Radio Shack? Does it work, is it junk, any problems, etc?

I'll be happy to summarize the responses if there is sufficient demand.

Thanks much in advance.

73, Griff, N7ZKL

Internet: griff@ssd.intel.com

Packet: n7zkl@k7iqi.or.usa.na

Date: 11 Oct 94 00:28:05 GMT
From: rpmccoy@BIX.com (rpmccoy on BIX)

References<376elr\$1lq@news.onramp.net> <rpmccoy.781707297@BIX.com>,
<3795io\$5oi@news.onramp.net>
Subject: Re: Isoloop vs R5/7

George:

Thanks for the info. I have thought about contacting him. I also bought the Isoloop. I had good luck with it operating portable.

I think I'll check current status of book and capacitor. I would like to build one for 80/40.

73s, Dick, N4UN
rpmccoy@bix.com

Date: 10 Oct 1994 22:10:25 GMT
From: kennish@kabuki.EECS.Berkeley.EDU (Ken A. Nishimura)

References<36rn41\$1d7@newsgate.dircon.co.uk> <374h38\$13n@portal.gmu.edu>,
<jdow.781777885@BIX.com>
Subject: Re: "How far" does 1 milliwatt (and 1 watt) go?

In article <jdow.781777885@BIX.com>, jdow on BIX <jdow@BIX.com> wrote:

>
>Figure sensitivity of 0.3uV (-117dBm), transmitter of 5 watts (+37dBm), and
>HT antennas (maybe -2dB or -3dB gains.) Path loss is 36.6dB + 20log(freq)
>+20log(dx) with freq in MHz and dx in miles. Let's figure 2 meters for grins.
>That is about 43dB for the frequency. So 43+37+20log(dx)+5 = 37-(-117) = 154dB.
>85+20log(dx) = 154 -> 20log(dx) = 69dB. Or dx = 2800 miles. Of course that
>assumes pure line of sight. And at 450MHz you drop to about 930 miles all other
>things being equal.
>
>Yeah - those little things can go a LONG ways when conditions are right.
>{^_-}
>
>{^_^} Joanne Dow, Editor Amiga Exchange, BIX
> jdow@bix.com

Well, let's do this for the generic case. Assume 50 ohm signal source and 290K temperature. The 1 Hz noise power is -174 dBm due to Johnson or thermal noise. The above path loss formula is correct. You can figure out your own Tx and Rx antenna gains and Tx line losses. The

recevier sensitivity is then:

$$-174 \text{ dBm} + 10 \log (\text{BW}) + \text{C/I} + \text{F}$$

where BW is bandwidth of the receiver (noise BW) in hertz,
C/I is the required Carrier to Interference ratio needed, and
F is the receiver noise figure (the TOTAL receiver, not just the LNA).

C/I can be around 0 dB for OOK (CW) signals, 1 to 2 dB for wideband FM,
3 to 4 dB for NBFM, and as high as 10-12 dB for AM. Note that you get
audio SNR to C/I gain with FM and none with AM.

F is typically in the range of 5 to 10 dB. A good communications receiver
has a F of about 6 dB, with most commercial stuff around 8 dB. Your HT
and cellphone are probably around 7 to 8 dB.

So, if your received power (Tx power + Tx AG + Rx AG - Path Loss - TxLine
losses on both sides) is greater than your sensitivity, you get a QS0.
Consult a communications textbook for exact formulae required for C/I
for various systems.

==ken

End of Info-Hams Digest V94 #1112
